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CHEMICAL & ENGINEERING NEWS

C&EN

NOVEMBER 8, 1993

U.S. ARM OF GERMANY'S DEGUSSA FINALLY TURNS A PROFIT PAGE 32

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ELECTROMAGNETIC FIELDS

Health effects remain unresolved despite extensive research Page 15

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NEWS OF THE WEEK

■ EPA proposes rule to sharply cut air and water discharges of toxics from pulp and paper mills, requiring drastic curbing of chlorine use for bleaching. **Page 5**

■ ACS and Dialog Information Services have settled out of court the lawsuits they filed against each other focusing on Chemical Abstracts Service; terms of the settlement weren't disclosed. **Page 6**

■ Film for commercial printing that doesn't use silver halide or chemical developers has been invented by Xerox. **Page 6**

■ Key protein that serves as an early trigger for autoimmune process that leads to diabetes has been identified by two independent groups of researchers working with mice. **Page 7**

■ Pentagon is reviewing findings by a Czech chemical decontamination unit that it detected low levels of chemical warfare agents in the air during the Gulf War. **Page 7**

■ Controversy swirls around charges that Formosa Plastics plant at Point Comfort, Tex., dumped wastewater before receiving clearance from EPA. **Page 8**

COVER: Illustration by Marvin J. Fryer

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BUSINESS

Degussa Corp. has steadily built its reputation as a U.S. specialty chemicals producer and now begins to pay dividends to its German parent firm, Degussa A.G. **Page 32**

GOVERNMENT

Congressional activity has focused on White House proposals and preparatory work on the North American Free Trade Agreement for the past two months. **Page 36**

Rep. George Brown's bluster about earmarking of research money pays off, as millions of dollars for pork-barrel projects are pared from appropriation bills for fiscal 1994. **Page 38**

SCIENCE/TECHNOLOGY

Closest approach to the silylium ion, a triisopropyl silyl species weakly bound to a brominated carborane, is reported by University of Southern California chemists. **Page 41**

AWARDS

ACS Arthur C. Cope Award and Cope Scholar Award winners: Roberts, Brookhart, Dowd, Foote, Jacobsen, Newcomb, Ojima, Roush, Schuster, Taylor, and Verdine. **Page 46**

NEWS FOCUS

Questions about health effects of exposure to electromagnetic fields remain unresolved, in part because research, although extensive, is complicated and also because results often have been contradictory. Page 15

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LETTERS

A world without chlorine

During the past week, numerous articles have appeared in the press either condemning or supporting the continued manufacture of chlorine and chlorine-containing materials. Greenpeace, the International Joint Commission, and the Michigan Medical Society are hoping to ban the manufacture and use of chlorine because it is hypothesized—but hardly proven—that extremely low levels of some chlorinated compounds may present a small risk to human health. Manufacturers, on the other hand, argue that chlorinated materials account for 40% of the U.S. economy and many thousands of jobs. In my opinion, as a retired chemist who spent 40 years in halogen research, I do not think that either side has framed the argument in terms that the public can understand or even relate to.

The question is not whether people can live without chlorine, as surely we can. After all, we got by quite well up to 1810 when chlorine was discovered, and can do so again. If the public chooses to revert to the life-style of the 1850s, it is free to do so. To do so would solve the health care problem, because medicine would also revert to that available in the 1850s. The cancer problem would be solved because the average life expectancy would decrease to about 45 years and few people would live long enough to get cancer.

I chose 1850 as the cut-off point for modern medicine because this is when chloroform came into its own as an anesthetic agent, permitting the use of lamps, electrical equipment, and x-rays in operating rooms without risk of incinerating the doctors, nurses, and patients, as often happened with ether. Between 1850 and the 1960s, millions of patients, doctors, and nurses inhaled many tons of the substance. Admittedly, there were deaths caused by chloroform. These were mostly caused by doctors overdosing the patient because they did not have modern metering systems.

Chloroform is now usually referred to as trihalomethane, a euphemism that hides the fact that the name chloroform is widely known to the public. I doubt that use of the proper name chloroform would stir up much fear since the compound was used for many years in over-the-counter cough medicines. It is unlikely that there are many people over 20 who haven't taken in considerable quantities of it. Chloroform, when called trihalomethane, is the same substance that the Environmental Protection Agency claims might cause cancer if consumed in drinking water in parts per billion. The amount that the average person can take in this way would appear to be trivial compared with the amount the average surgeon took in by inhaling the operating room air. Because of this fact, I would expect that if one examined the data, there should have been a large drop in the cancer rate of surgeons and operating room personnel during the past three decades. However, examining such data is not high on either the environmentalist's or EPA's list, since doing so and reporting the results might cause them to lose credibility. (Note the wide publicity given to the negative results of a 20-year study of the "victims" of the infamous "poisioning of Michigan" by polybromobiphenyl—a material reputedly as bad as dioxin. The *Detroit Free Press,* May 8, has the only reports of the results of this study that I have found.)

To those who may argue that because chloroform has been replaced by newer anesthetics, chlorine is no longer needed, I would like to point out that every inhalation general anesthetic agent in use today, except ether, is a product that relies on chlorine for its manufacture.

What I have said about medicine applies equally well to other industries that are obviously not critical to an 1850 life-style, such as telephones, electronics, automobiles, defense, computers, and so forth. It is difficult to think of any industry that did not already exist in 1850 that is not a product of people's ability to manipulate raw materials through the use of this most important element. Obviously, even Mother Nature has not found a way to do without chlorine, since algae pump billions of tons of it into the atmosphere every year.

In closing, I suggest that the Luddites and their financial backers are alive and well. Only the names have changed, but their objectives remain the same: Give me back the good old days, and down with progress.

Eric R. Larsen
Midland, Mich.

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Brown cuts millions in research earmarks

Rep. George E. Brown (D.-Calif.), who has been waging a lonely little war on the pork barreling of research money, is finally claiming some success for his decade-long efforts. By assigning his staff to pore through dense conference reports, convincing the House to change certain rules, personally arguing colleagues into seeing his side, and snorting fire on the House floor, Brown, chairman of the House Science, Space & Technology Committee, says he has apparently saved about $212 million that might otherwise have gone into pork-barrel projects in the fiscal 1994 budget.

The figure may seem piddling alongside the billions spent on defense programs or domestic entitlements, but Brown thinks the symbolism is significant. He believes that Congress' undemocratic system of playing fast and loose with public R&D money has been dealt a crippling blow. And in hearings in September he explored the unsavory process whereby lobbyists collude with and pressure politicians to fund projects favored by influential people in their districts. An organization especially targeted for Brown's criticisms was Cassidy & Associates of Washington, D.C., probably the foremost practitioner of the art.

Brown released the data in a press briefing on Oct. 27. The Defense Department's appropriation bill had not yet passed Congress, so its figures were not included. But Brown was hoping that the $260 million in earmarked projects added to DOD's $471 million Technology Reinvestment Program (TRP) would at least have to undergo peer review before any funds were handed out. TRP is a Clinton Administration initiative aimed at helping Defense Department contractors convert to technologies that dually serve the civilian and military markets.

Brown says he worked hardest to end earmarking practices in two separate appropriation bills: those from the Subcommittee on VA, HUD & Independent Agencies, and the Subcommittee on Energy & Water Development. Those bills provide money for agencies such as the Environmental Protection Agency, the Federal Aviation Administration, the National Aeronautics & Space Administration, the National Science Foundation, and the Department of Energy. Fiscal-year 1993 examples include $2.3 million for a food marketing center at St. Joseph's University, Philadelphia; $6.9 million for an air traffic control training center at the University of Alaska; and $10 million for a coastal resources center at Louisiana State University.

Top earmark recipients got over $1 billion since 1980

$ Millions	
Iowa State University	$91.6
University of Alaska	91.2
Oregon Health Sciences University	84.9
Louisiana State University	71.0
University of West Virginia	71.0
University of Hawaii	70.0
University of Rochester	65.3
Florida State University	58.7
University of Alabama	57.0
Boston University	56.5
Tufts University	46.0
University of North Dakota	43.4
Michigan State University	42.7
University of Illinois	39.2
University of South Carolina	36.8
University of Oregon	35.2
Indiana University	34.9
University of Florida	34.3
North Dakota State University	30.7
Loma Linda University (Calif.)	29.5

Note: Top 20 earmark recipients, 1980–92
Source: "Trends in the Distribution of Apparent Academic Earmarks in the Federal Government's FY 1980–92 Appropriations Bills," Congressional Research Service, September 1992

The value of earmarks in the Energy & Water bill declined 78%, from $177 million in fiscal 1993 to $38.6 million in fiscal 1994. Earmarked funds in the VA, HUD bill dropped from $60.2 million to $7.7 million, or 87%, according to Brown's figures. These reductions mean that funding that had crept through the back door into appropriations reports were, in the end, not approved.

Earmarking in the Agriculture Department's appropriation bill, which Brown did not focus on but had figures for, dropped from $97.7 million to $70 million. But it did rise in the bill for the Departments of Commerce, Justice, and State—$76.5 million to $82.8 million. "The slight rise in earmarks in that bill," he says, "indicates that the subcommittees involved have not taken to heart our message." Still, he says, the record this year satisfied him. "Energy & Water and VA, HUD represented 58% of the earmarks among these four bills in fiscal 1993," he says. "They now account for just 23%."

In his briefing to reporters accompanying the release of his report, Brown said he used various techniques to reverse the increase in earmarking money, "including making an ass of myself" by his speeches of protest on the House floor. But mainly, the work involved convincing members of other authorizing committees to seek a rule change that allows chairmen of authorizing committees to force floor votes on items that are not mentioned in House or Senate appropriation bills.

Another technique involved using the Democratic caucus—the process by which Democrats formulate uniform positions on procedures and issues—to require appropriations committees to give 24 hours' advance notice to authorizing committees before bills are finally appropriated. That requirement serves to give time for the authorizing committee members to undo additions made by their earmarking colleagues.

According to a Brown staffer, the seminal political event favoring Brown occurred last year during consideration of the Energy appropriation bill. Brown had succeeded in knocking 10 projects totaling $100 million out of DOE's budget. His motion won by a large vote.

"But those same projects," says the staffer, "were snuck back into this huge Defense appropriation bill which no one normally took the time to read." After finding the insertions, Brown delivered an angry speech on the floor, terming the action an "affront to the institution." As the staffer puts it, Brown said, " 'Deal with me now or you'll have to deal with 100 new members of Congress next year.' It was a one-person campaign."

Brown, of course, would like to end pork barreling permanently. He thinks that his success in getting the House rules changed will go a long way toward achieving that. He believes that the appropriations committees have gone too far in attempting to change the content of agency programs. That is the job of authorizing committees, he says.

Brown laments that the Clinton Administration has not talked with him in opposing the practice. On Sept. 27, he wrote to Vice President Gore to request that the Clinton Administration issue an executive order requiring agencies to disregard earmarks that appeared only in conference reports. As of press time, Gore had not replied.

Wil Lepkowski